

AMENDMENTS TO THE CLAIMS

1. – 7. (Cancelled.)

8. (Currently Amended) ~~An impurity~~ A non-metallic inclusion measuring device comprising:

a table on which a metal sample, comprising aluminum having a fracture surface with minute irregularities, is mounted with said fracture surface facing up;

a reflection dome disposed over said table and having a downward concave reflection surface of a ~~substantially~~-semicircular section with an opening in the vicinity of a vertex thereof;

a plurality of light sources which are mounted along an inner edge of said concave reflection surface of said reflection dome so as to emit light toward said reflection dome;

~~an imaging~~ image sensing means, disposed over said opening of said reflection dome, for sensing an image of the fracture surface irradiated with the light;

a continuous tone color image processing means for processing the sensed image into a continuous tone color image; and

binarizing means for binarizing the continuous tone color image through comparison between a result of the continuous tone color image processing and a threshold value.

9. (Cancelled.)

10. (Cancelled.)

11. (Currently Amended) ~~An impurity~~ A non-metallic inclusion measuring device according to claim 10, ~~characterized in that~~ wherein said light sources comprise light-emitting diodes.

12. (Cancelled.)

13. (Currently Amended) ~~An impurity~~ A non-metallic inclusion measuring device according to claim 8, ~~characterized by~~ further comprising:

high-luminance region detection means for detecting an image region having a higher luminance than the threshold value from the image binarized by said binarizing means; and
pixel count measuring means for measuring a pixel count of the image region detected by said high-luminance region detection means.

14. (Currently Amended) ~~An impurity~~ A non-metallic inclusion measuring device according to claim 13, ~~characterized by~~ further comprising impurity region recognizing means for recognizing the image region detected by said high-luminance region detection means as an impurity region containing a non-metallic inclusion when the pixel count measured by said pixel count measuring means is larger than a predetermined pixel count, and avoiding recognizing the detected image region as an impurity region when the measured pixel count is smaller than the predetermined pixel count.

15. (Cancelled) ~~An impurity measuring device according to claim 8, characterized in that the sample comprises aluminum.~~

16. (Currently Amended) ~~An impurity~~ A non-metallic inclusion measuring device according to claim 8, ~~characterized in that~~ wherein said image sensing means comprises a CCD camera.

17. (Currently Amended) ~~An impurity device~~ A non-metallic inclusion measuring device according to claim 8, further comprising a support column standing upward from said table, wherein said reflection dome is mounted vertically movably on said support column.

18. (Currently Amended) ~~An impurity~~ A non-metallic inclusion measuring device according to claim 17, wherein said ~~imaging means~~ (image sensing means) is mounted above said reflection dome vertically movably on said support column.

19. (Currently Amended) ~~An impurity~~ A non-metallic inclusion measuring device according to claim 11, further comprising a ring member mounted along the inner edge of said

concave reflection surface of said reflection dome, wherein said light-emitting diodes are disposed on said ring member.